Seasonal Disease Occurrence – Vegetables

Pest Name	Host Crops	Causal Organism	Mode of Carryover	Mode of Transfer	Seedlings	Roots	Stems / Branches	Foliage	Flowers	Fruit	Seeds	Tubers	Storage	Timing	Control
Aster Yellows	Wide range	*mycoplasma-like organism*	Infected host plants	Aster Leafhopper	Y	Y	Y	Y	Y	Y	-	-	N	June to Sept	Control insect vector
Bacterial Soft Rot	Wide range	*Erwinia carotovora subsp carotovora or atroseptica*	soil borne	via wounds/weak points; in storage, wash water;	N	Y	Y	Y	N	Y	N	Y	Y – spreads	Typically post-harvest	crop rotation; careful post-harvest handling;
Botrytis	Wide range	*Botrytis cinerea*	spores; mycelium; sclerotia	spores; mycelium	Y	-	-	Y	Y	Y	-	-	Y	any point in the growing season with suitable conditions	Adequate fertilizer; protective sprays; timely harvests
Clubroot	Cruciferous crops	*Plasmodiophora brassicae*	resting spore in soil	germinating resting spores; transfer of spores in water, soil, etc.	Y	Y	-	indirect - stunting	-	-	-	-	N	any point in summer - typically in early summer	Rigorous sanitation; Long rotations; Avoid contamination
Common Blight	Beans	*Xanthomonas campestris pv phaseoli*	infected seed; contaminated soil	rain splash; physical contact; insects, etc	-	-	-	Y	-	Y	Y	-	N	any point in summer	Use clean seed; bury residues
Common Scab	Potato, beets, carrots, turnips, rutabaga, radish	*Streptomyces scabies*	Soil borne; infected seed	soil to tuber (via lenticels)	-	-	-	-	-	-	-	Y	Visible; does not spread or increase	Infection occurs during 5 weeks (flowering onward)	Clean seed; seed treatments; even watering; variety selection
Downy Mildew	Beets, spinach, cole crops, radish, rutabaga/turnip, lettuce, rhubarb, onion, garlic, peas	*Perenospora spp. (depends on host crop)*	oospores in soil, debris, plant parts	spores - water splash, wind	Y	Y - crown infect	-	Y	-	-	-	-	N	Dependant on weather	Crop rotation; bury debris; protective sprays

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Early Blight	Potato, tomato, pepper, eggplant	*Alternaria solani*	Soil, crop residues, alternate hosts	spores - soil to tissue transfer; rain splash	-	-	-	Y	-	Y	-	Y	Y - does not spread	mid-late summer	Crop rotation; protective sprays; avoid plant stress
Fusarium dry rot	Potato	*Fusarium sambucinum, F. solani, F. coeruleum, F. avenaceum*	contaminated soil or infected seed	wounds	-	-	-	-	-	-	-	Y	Y; does not spread	Wounding during harvest or post-harvest	Careful handling during harvest & post-harvest
Halo Blight	Beans	*Pseudomonas syringae pv phaseolicola*	infected seed; contaminated soil	rain splash; physical contact; insects, etc	-	-	-	Y	-	Y	Y	-	N	any point in summer	Use clean seed; bury residues
Late Blight	Potato, tomato, pepper, eggplant	*Phytophthora infestans*	On living tissues (tubers, etc)	sporangia; rain splash; on storm fronts	Y	-	-	Y	-	Y	-	Y	Y	any point in summer - depends on point of infection	Monitoring/early detection; protective sprays; clean seed potatoes
Neck rots	Bulb vegetables	*Botrytis aclada, B. byssoidea, B. squamosa*	Sclerotia in bulbs, debris, cull piles, volunteers, soil	spores via air; wounding at harvest	-	-	-	Y - bulbs	-	-	-	-	Y - increases in severity & as symptomless bulbs develop	mid-late summer to harvest	Reduce inoculum; avoid wounding; cure after harvest
Pink Rot	Potato	*Phytophthora erythroseptica*	soil borne	infection of stolons, eyes, lenticels; via wounds at harvest	-	-	-	-	-	-	-	Y	Y - spreads in storage	late summer; at harvest	Crop rotation; Cull after harvest; fungicides applied around planting or tuber set
Powdery Mildew	cruciferous crops, peas, lettuce, rhubarb, cucurbits	*Erysiphe polygoni; E. cichoracearum*	cleistothecia (sexual spores)	windblown spores	-	-	Y	Y	-	Y	-	-	N	Spring or fall	Good airflow; crop rotation; remove inoculum

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Pythium root rots	Wide range	*Pythium spp.*	soil borne mycelium, sporangia, oospores	germinating oospores	Y	Y	-	Y - seedling - indirect	-	-	-	-	N	early season or whenever young plants are present	good drainage; seed treatments
Rhizoctonia / Black Scurf	Potato	*Rhizoctonia solani*	sclerotia in soil or on seed tubers	soil to plant parts	Y	Y	Y	-	-	-	-	Y	Y - visible - doesn't increase or spread	early spring or late season	seed treatments; good growing conditions
Sclerotinia rot	Carrots, lettuce, beans, cole crops, potatoes, peas, cucurbits, solanaceous crops, etc.	*Sclerotinia sclerotiorum*	sclerotia in soil or on plant debris	spores; germinating sclerotia	Y	Y	Y	Y	-	-	-	-	Y	any point in summer	Remove inoculum; protective sprays; post-harvest management
Slippery Skin	Bulb vegetables	*Pseudomonas gladioli pv. allicola*	soil borne	rain splash of soil; via wounds	-	-	Y - neck area	Y - bulbs	-	-	-	-	Y - doesn't spread	mid-late summer	careful irrigation; proper post-harvest handling
Silver Scurf	Potato	*Helminthosporium solani*	in soil or in debris in soil	soil to tuber	-	-	-	-	-	-	-	Y	Y	Before or at harvest	Seed treatments; quick harvest; cold storage
Verticillium Wilt	Potato, tomato, pepper, eggplant, cucurbit crops	*Verticillium albo-atrum; V. dahliae*	microsclerotia or mycelium on crop debris or in soil	spores or spores in soil	Y	Y	Y - indirect	Y - indirect	-	-	-	-	N	Dependant on weather & crop stage	seed, soil treatment; clean plants

Note – occurrence timelines and disease attack points are estimates only and can vary according to seasonal conditions and many other factors – use a general guideline